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SUPPORTING PUBLIC SPEAKERS ONLINE: A VIRTUAL SPEAKING CENTER INTERVENTION

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SUPPORTING PUBLIC SPEAKERS ONLINE: A VIRTUAL SPEAKING CENTER

INTERVENTION

BY

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE

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OF

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ABSTRACT

The COVID-19 pandemic catalyzed changes in workplace and classroom communication, forcing immediate adaption to online video-conferencing with limited preparation. Through a multi-step survey, this study investigates student perceptions of their preparedness for presenting online speeches and the gaps in their competencies; uses best practices from the public sector to create a targeted speaking center intervention with the goal of aiding students in effective online communication; and collects data about high communication apprehensives (CAs) and high computer-mediated communication apprehensives (CMCAs) and their interaction with video-conferencing platforms.

This study hypothesizes that if computer-mediated communication skills (CMC skills) share a negative relationship with communication apprehension in online environments (CMCA), then high CAs and CMCAs, when provided with a targeted intervention to increase their CMC skills, will experience a significant increase in preparedness for online public speaking following the intervention. The results of the surveys revealed that CAs and CMCAs were significantly correlated groups who identified higher levels of need in support for their online presentations before the intervention and reported a greater positive change in their preparedness as a result of the intervention. The significant increase in overall preparedness for online public speaking across the sample ultimately suggests the intervention's effectiveness and promise as a model for future speaking center workshops.

ACKNOWLEDGMENTS

Completing my Master's degree has been both a true test of my ability to juggle competing responsibilities and a reaffirmation of my commitment to learning all that I can about human communication. At the end of two wild years, situated in the middle of a global pandemic, I am immensely proud of my accomplishments and wholly thankful for the support I received from my convoy of family, friends, coworkers, and mentors.

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CHAPTER 1

INTRODUCTION

The COVID-19 pandemic forced most educational institutions to radically change

their practices with limited preparation time. In distance classrooms, teachers and

students alike navigated new territory, negotiated altered course outcomes, and jumped

unfamiliar digital hurdles. Higher education institutions in particular were forced to be

agile in the face of a massive retention threat with the potential for severe financial

repercussions. Thus, administration, faculty, and academic support staff were required to

produce creative solutions to triaging and meeting remote students' needs.

In 2020, with some institutions completely remote and others offering hybrid

courses, higher education learned how to apply widespread pandemic pedagogy. In the

area of academic support, where tutoring services' primary work is to meet the specific

needs of the student body and curriculum, services must match shifting needs not only to

aid in retention but also to ensure their longevity. Speaking centers which are relatively

new to the academic support scene need to update their practices for changing speaking-

assignment formats and to fit into distance learning environments. Reimagining best

practices, both in types of services and areas of support, is imperative for speaking

centers to move toward supporting online oratory. Beyond meeting the needs of students

in their online classroom environments where public speaking has morphed into

something new, speaking centers also play an integral role in preparing students for the

post-COVID-19 workplace that awaits them after graduation.

According to a study by Stanford economist Bloom (2020), the new norm of

working from home will likely continue in part even after COVID-19 conditions have

improved (as cited in Wong, 2020). In June of 2020, Bloom found that 42% of the American workforce was working from home with another 33% not working at all, leaving only 26% (mostly essential workers) in their usual physical workspace (as cited in Wong, 2020). Dingel and Neiman (2020) investigated the work-from-home landscape further by classifying the feasibility and possibility of the continuation of working from home across occupations post-pandemic. Their findings reveal that in the United States, 37% of jobs are conducive to working entirely from home and will likely continue to allow their workers the flexibility to work from home at least a few days a week even as the effects of the pandemic have lessened (Dingel & Neiman, 2020). This data illustrates that online meetings, presentations, and other forms of workplace communication will likely continue to occur at least semi-regularly through online platforms even after the pandemic. Furthermore, virtual college classrooms and speaking centers are uniquely positioned to prepare students for another aspect of their future workplaces by recognizing that online platforms like Zoom, Google Hangouts, and Webex are here to stay and developing curriculums that integrate and optimize best virtual communication practices.

As of October 2020, when this research began, *The Chronicle of Higher Education* (2020) reported that out of 3,000 colleges, only 4% offered fully in-person classes with most primarily or fully online (44%). As a result of higher education institutions serving students primarily online during this point in time, academic support centers like speaking centers needed to meet students in online spaces as well. It is clear that in the writing center field, online services, both synchronous and asynchronous, have been offered for years (Bell, 2016; Neaderhiser & Wolfe, 2009; Denny, 2016; Paiz, 2018;

Rosalia, 2013). Even before the pandemic, these online services provided increased

opportunities for interaction with support services, expanding access to students with

difficult schedules or limited access to campus. What is unclear in speaking center

scholarship, however, is how speaking centers have adapted to distance and online

learning. In the most current investigation of speaking center services, McIntyre and Hall

(2017) sought to discover to what extent speaking and communicating centers provided

online services in addition to what platforms and services they offer. Using survey data

and analysis of speaking center websites, they learned that only 21 out of 135 speaking

centers included online support in their services and only 23% of those centers use both

synchronous and asynchronous formats. Because this data was collected more than three

years ago and used a limiting, text-based content analysis of speaking centers' websites

rather than survey data, a renewed examination of the state of speaking and

communication centers is necessary, as is an evaluation of best online practices. While

this sort of updated data is important to the field of speaking center scholarship, it is not

the focus of this study; instead, the goal of the work that follows is to offer more insight

into what those online services might look like and how they can support high

communication apprehensives.

This study reviews the existing literature to uncover what communication skills

employers look for in the virtual workplace, particularly for online presentations; the

competency gaps students perceived in their preparations for public speaking online; the

distinct needs of high communication apprehension students in computer-mediated

environments; and the effects of a pilot intervention offered by a speaking center to

address online public speaking competencies in an introductory communication course.

CHAPTER 2

LITERATURE REVIEW

Workplace and Classroom Communication in Pandemic Times

During the COVID-19 pandemic, most non-essential workers were displaced from their workspaces and coworkers. Students and teachers swapped lecture halls for virtual classrooms situated in their kitchens, living rooms, and home offices. With meetings and lectures moving to Zoom, quick office drop-ins shifting to instant messaging chats, and presentations or pitches suddenly requiring screen shares, organizations and universities adapted quickly and out of necessity, not leaving much time to establish best practices.

Prior to the pandemic, McGloin and Coletti (2019) explored the already changing workplace communication from face-to-face to digital spaces. They began the work of characterizing best practices for video-based presentations and meeting channels. McGloin and Coletti (2019) base much of their insight into the increasingly digital workplace on a *Forbes Insight* survey from 2017 which collected data from 333 global executives in various fields. The findings of this survey revealed that 97% of these executives agreed that video channels helped connect remote workers, with a majority also expressing positive attitudes towards production and performance of employees due to video conferencing (as cited in McGloin & Coletti, 2019). These findings suggest that while the global community may not have been prepared for the sudden shift in communication catalyzed by the pandemic, the lessons learned may prove valuable for the future of workplaces as the demand for competent online speakers will likely continue even after the pandemic.

To conclude their discussion of digital communication spaces and online rhetorical strategies, McGloin and Coletti (2019) call on collegiate speaking centers to monitor industry trends and prepare students for the demands of their future professional workspaces. They highlight this opportunity while also recognizing the potential challenges:

> Existing communication centers will need to determine the capacity and resources that they (initially) have available to allow them to start serving requests for training and coaching related to the delivery of digital presentations. While existing centers are well positioned to integrate the new digital foundations and pedagogy, they must also identify both physical and digital space for which the training can take place. (McGloin & Coletti, 2019 , p.51)

An Opportunity for Collegiate Speaking Centers

While speaking centers are uniquely positioned to prepare students for this changing communication environment, both professionally and socially, even before they enter the workplace, they may not be fully prepared for the challenge. In their descriptive overview of communication centers in the United States, LeFebvre et al. (2017) gathered data from 47 speaking centers to learn more about their structures, services, and practices. LeFebvre et al. (2017) found that the top four most common services offered across speaking centers are focused on speech outlining (15%), delivery practice and feedback (12.9%), organization of speech (10.7%), and video practice (10.7%). Only 20% of this sample of speaking centers offered e-tutoring, which is most likely explained by how very few communications or speaking centers reported the technology to sustain e-tutoring. LeFebvre et al. (2017) identify this gap in technology and e-tutoring services to

suggest that "centers could provide training for enhancing visual communication skills that support students and faculty in the digital age" (p. 446). The gap in e-tutoring and multimodal communication coaching in speaking centers warrants development as classrooms and workplaces make moves online.

Because speaking center scholarship has yet to fully investigate practices of speaking centers in the digital environment, McIntyre & Hall (2017) borrow from writing center scholarship to search for advantages and disadvantages of asynchronous and synchronous online tutoring and peer coaching services. In online writing labs, writing consultants strive to replicate face-to-face tutorials by fostering collaborative virtual spaces using text-chats or email in both live and written feedback formats (McIntyre & Hall, 2017). In another branch of their research, McIntyre & Hall (2017) use survey data and analysis of speaking center websites to learn that only 21 out of 135 speaking centers included online support in their services and only 23% of those centers used both synchronous and asynchronous formats. In terms of platforms, 100% of centers offering online services utilized email; 80% used online conferencing such as Zoom, Webex, or Google Hangout; and 40% uploaded videos on YouTube or Vimeo for asynchronous feedback. Further, 91% of these centers offered real-time conferencing focused on rehearsal feedback (73%), visual aid support (64%), written documents, and outlines/organization (45%) (McIntyre & Hall, 2017). An important limitation of this data, however, is that it was collected more than three years ago, before most institutions were forced to move to distance learning.

Like many academic support services, speaking centers' primary work is to support students with supplemental, individualized, one-on-one support. For speaking

centers, this work often includes help with public speaking anxiety and communication apprehension. New research shows, however, that this goal may require first meeting students where they are—in the classroom. To introduce embedded support in the classroom, virtual or otherwise, collaboration with faculty and other support services is essential.

McCall et al. (2017) explores the benefits of collaboration in a basic communication course with a triad of support for public-speaking students including the course instructor, the library, and the communication center. In this course, students were tasked with developing a persuasive round-table discussion on a controversial topic, requiring extensive research and persuasive speaking skills (McCall et al., 2019). Together, the speaking center, library, and course instructor created collaborative workshops in the classroom focused on research, public speaking, and speech preparation. They then surveyed the students to assess the workshops. Their findings confirmed that students needed to be exposed to these services in the classroom in order to feel comfortable seeking one-on-one support outside of the classroom. Additionally, they found that students who experienced high communication apprehension reported that the collaborative and dynamic nature of support helped guide them on what they needed most and where to start, helping ease their doubts (McCall et al., 2017).

Communication Apprehension and Public Speaking Anxiety

The field of communication apprehension (CA) studies is highly developed and offers insight into traditional and computer-mediated public speaking anxiety. In his quest to better understand the correlation between suicide and enrollment in public speaking courses during his tenure at Penn State University, the seminal scholar of

communication apprehension, McCroskey (1970) discovered two distinct types of CA, trait-based and situational-based. Trait-based CA is a consistent level of fear and anxiety, while situational or context-based CA is associated with variables and not consistent to the communicator (Harris, Sawyer, & Behnke, 2006).

McCroskey (1997) relates the two traits to public speaking anxiety when he writes:

> Individual traits (trait-based) are relatively enduring over time, whereas (context-based) states are highly variable. Applying this to the common problem of stage fright, a person may be generally apprehensive about giving speeches and thus will experience considerable anxiety when forced into giving a speech. Another person may generally enjoy and not fear giving speeches. However, if that person is asked to give a speech on television with insufficient time to prepare, [they] may experience a comparable amount of anxiety. (p. 192)

To extend this example into the context of video-based public speaking, another individual may enjoy public speaking in the classroom, and perhaps even be a part of debate club, but become apprehensive when asked to present a 5-minute speech to their classmates on Zoom. Alternatively, another student may struggle with public speaking in face-to-face settings, but thrive on computer-mediate platforms like Zoom, making presentations in this medium less threatening spaces for them to communicate.

To help identify high CAs, McCroskey (1970) developed several measures for assessing communication apprehension, including the 24-item Personal Report of Communication Apprehension (PRCA-24). This measure is made up of four subscales (group discussion, meetings, interpersonal, and public speaking), each with 6-items formatted as 5-option, Likert-type questions particular to that context of communication

apprehension (as cited in McCroskey, 1997). The subscales can be scored together or separately to examine various aspects of communication apprehension. This test has stood the test of time with high reliability and validity. This tool is helpful for assessing the starting points of students in public speaking courses, but has not been applied extensively to public speaking in computer-mediated environments like video-conferencing.

Computer-mediated Communication

Computer-mediated communication (CMC) includes any form of communication that relies on the internet as its primary channel for sending and receiving messages and feedback (Brown et al., 2004). In one of the earliest conversations about speaking centers and online services, Davis (2012) outlines the advantages of implementing CMC, pointing out that convenience, increased productivity of consultations, increased accessibility, and decreased anxiety were the primary benefits. Seven years before McGloin and Colletti (2019) called for speaking centers to change their practices to meet online needs, Davis (2012) highlighted this same opportunity to prepare the next generation for the workplace and increase their value as organization employees.

Davis (2012), as an early believer in the power of online speaking center services, characterized online tutoring platforms as lower stress environments with the power to reduce fear and interaction anxiety. While Davis's (2012) findings are noteworthy, they may be somewhat contrary to today's discussion of online speaking center services. The low-stress, alternative environment depicted by Davis (2012) was often text-based through email or chat function services rather than video conferencing. Most importantly, it was also meant primarily to prepare students for face-to-face speeches; however, if the

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speaker's stage has shifted to an online platform, that online environment may no longer

be a "safer" or alternative space.

In fact, new research out of the Stanford Virtual Human Interaction Lab suggests

that prolonged videoconferencing causes Zoom fatigue and may trigger a fight-or-flight

response (Bailenson, 2021). In an interview with *Business Insider* about this emerging

research, Bailenson (2021) said, "The brain is particularly attentive to faces, and when we

see large ones, we interpret them as being close. Our 'fight-or-flight' reflex responds" (as

cited in Keyaira, 2021, para 3). Bailenson went on to say that "from an evolutionary

standpoint, if there was a very large human face close by to you, and it was staring right

in your eyes, you were likely going to engage in conflict or mating. Neither responses are

a good fit for a work meeting (as cited in Keyaira, 2021, para 6).

In his full report, "Nonverbal Overload: A Theoretical Argument for the Causes

of Zoom Fatigue," Bailenson (2021) outlines four central arguments for why the Zoom

interface leads to nonverbal overload and may be causing psychological consequences.

First, as previously discussed, the intensity of large faces and eyes displayed on screen

and at a close distance is unnatural. Second, monitoring one's own appearance and

nonverbal behavior continuously while being engaged in communication with others is

exhausting and leads to negative emotional consequences (Bailenson, 2021). Third, video

chats limit users' mobility which can reduce cognitive functioning. Fourth, cognitive

overload is likely to occur in Zoom settings where users' work must continuously

interpret and send signals using the many tools of Zoom—general framing of self and

others, exaggerated nods or other gestures, chat functions, emoticon reactions, and

subtitles (Bailenson, 2021). While the fatigue and fight-or-flight responses caused by

Zoom are not measured in the study design that follows, this emerging research further

suggests the importance of considering the relationship between computer-mediated

platforms and communication apprehension. This new research from Stanford

demonstrates that Zoom as a computer-mediated platform presents new cognitive

challenges that may add to the communication stresses of those who are already

apprehensive public speakers.

CMC Communication Apprehension

The relationship between communication apprehension and computer-mediated

communication platforms has been highly debated, with multiple models developed to

explain its relationship to generalized computer anxiety and traditional communication

apprehension. As early researchers, Brown et al. (2004) defined computer-mediated

communication anxiety/apprehension (CMCA) as "an individual's level of fear or

apprehension associated with actual or anticipated use of information technology to

communicate with others" (p. 83). In their conceptual model of CMCA (as seen in figure

1), Brown et al. (2004) suggested that general anxiety related to CMC (in their case,

within the context of email usage) consisted of both computer anxiety and

communication apprehension. CMCA is then influenced by that general anxiety as well

as CMC familiarity. In their model, CMCA also influenced overall attitude toward use

and usage behavior as outcome variables (Brown et al., 2004).

Figure 1. Conceptual Model of CMCA Proposed by Brown et al. (2004)
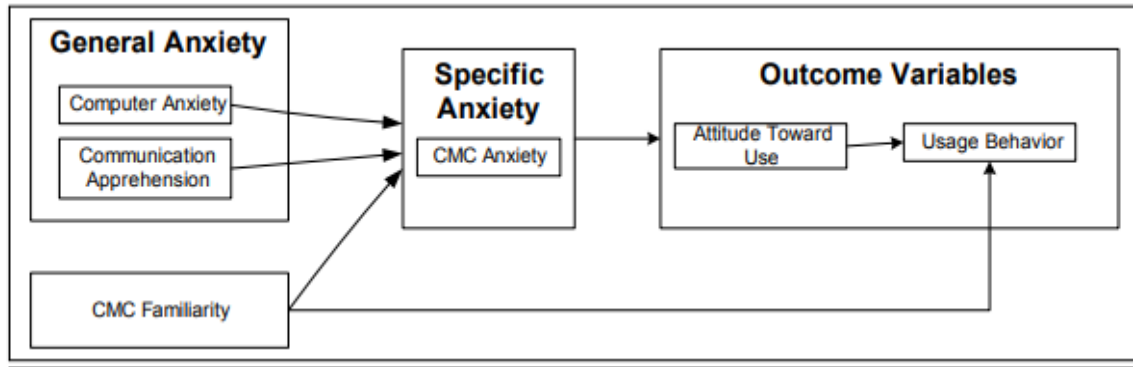
Brown et al. (2004), define CMC familiarity as "a combination of knowledge, understanding, and amount of time an individual has had experiencing something" and hypothesize that CMC familiarity will have a negative effect on CMCA (p. 86). To measure this variable, they used a subset of only 4 items to assess CMC familiarity: "I am very knowledgeable about email," "I understand how to use email," "I have a lot of experience using email," and "overall I believe I am very familiar with email" (Brown et al., 2004, p. 90). Brown et al. (2004)'s findings supported their hypothesis; CMC familiarity shared a statistically significant negative relationship with CMCA (p= -0.22, p< .01) and a highly significant positive relationship with usage (p= 0.21, p< .001). While this research is foundational to understanding CMCA and its relationship to familiarity, the use of email as the driving CMC in question seems simplistic compared to a multi-channeled, complex, high-context platform like video-conferencing.

In a later study, Wrench and Punyanunt-Carter (2007) created a similar but more detailed model which interrogated the relationship between communication apprehension, CMC skill, and CMC presence. The main CMC platforms examined in this study were email, chatrooms, and instant messaging. One-hundred and forty-five college students from an introductory communications course were provided with a survey

consisting of several sets of questions. To measure CMCA, Wrench and Punyanunt-Carter (2007) used the Fear of the Physician Scale developed by Richmond et al. (2013) which is formatted like the PRCA-24 subscale with a 5-item questionnaire, containing similar questions but within the context of communicating on the different CMC platforms explored in their study. For example, Wrench and Punyanunt-Carter (2007) replaced the statement, "When communicating with my physician, I feel relaxed," with "When communicating using an Internet-messaging program, I feel relaxed" (p. 367). As the measure of CMC skill, they created a variable that combined two types of efficacy, computer and internet efficacy, as well as CMC competence using tools from Spitzberg (2001) and Wrench (2004) (as cited in Wrench & Punyanunt-Carter, 2007). A central hypothesis of their study was that "both efficacy (computer and internet) and perceived CMC competence are factors that enable someone to be skillful [when] communicating using a computer" (Wrench & Punyanunt-Carter, 2007, p. 365).

Affirming their hypothesis, they discovered a positive relationship between CMC skill and CMC presence as well as a negative relationship between CMC skill and CMCA (Wrench & Punyanunt-Carter, 2007). Their findings suggesting that proper preparation for online public speaking which aims to increase CMC skill may support high CAs in lowering their anxiety (Wrench & Punyanunt-Carter, 2007). Figure 2 below illustrates the structural-equation model they developed that correlated all three parts of their study.

Figure 2. Structural-Equation Model Developed by Wrench and Punyanunt-Carter (2007)
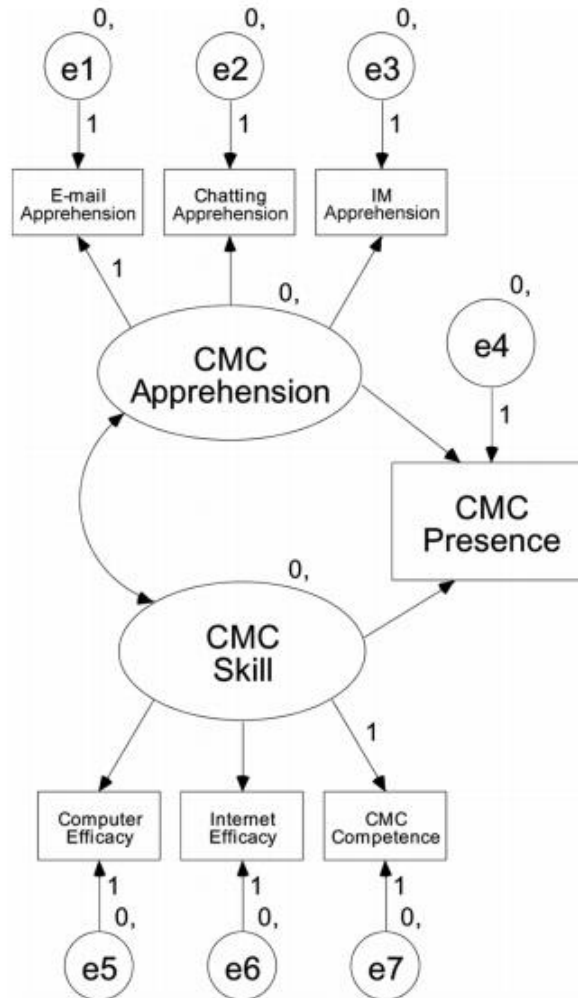
CMC Skill: Self-efficacy and CMC Competence

In Wrench and Punyanunt-Carter's (2007) model, CMC skill mirrors Brown et al.'s (2004) CMC familiarity variable but provides a more comprehensive understanding of the influences on familiarity. As seen in Figure 2, CMC skill breaks down into computer efficacy, internet efficacy, and CMC competence. According to Wrench & Punyanunt-Carter (2007), "self-efficacy is not a measure of actual skill but rather a measure of an individual's perception of [their] ability to perform a specific behavior" (p. 359). With this in mind, participants have more opportunities to reflect on their CMC

abilities and behaviors beyond the four-item CMC familiarity measure provided by

Brown et al. (2004). While the actual study of communication competencies within

different communication contexts is debated among scholars like McCroskey (1982),

Rubin et al. (1993), and Wiemann (1977), not only in terms of defining the competencies

themselves, but also because of the challenge presented in accurately capturing this data

using perception-based measures, it is widely agreed upon that it is key to effectual

communication (as cited in Wrench and Punyanunt-Carter, 2007). Luckily, while the

same self-reporting issue applies in collecting public speaking competency data from

participants, the competencies for public speaking and video-based public speaking are

more widely established.

Competency Areas for Virtual Public Speaking

The Public Speaking Competence Rubric (PSCR) provides eleven key

competency areas for traditional public speaking: useful topic, engaging introduction,

clear organization, well-supported ideas, closure in conclusion, clear and vivid language,

suitable vocal expression, corresponding nonverbals, audience awareness, effective visual

aids, and convincing persuasion (as cited in Schreiber, 2012). In the realm of online

public speaking, McGloin and Coletti's (2019) toolkit for enhancing online presentations

includes much of the PSCR competencies with a few reconfigurations. When used to

develop resources for students preparing for online speeches, McGloin and Coletti's

(2019) toolkit has the potential to break down the barriers students will face in online

classroom and workplace presentations. The toolkit they offer outlines tips for use

throughout the online speech process from capturing a digital audience and creating

effective and accessible visuals to delivery techniques and choosing a performance space

with added considerations for mostly technical factors such as lighting, visuals organization schemes, and digital audience participation options.

Another resource for online public speaking, *Captovation: Online Presentations by Design* by Allen and Young (2020), echoes the driving argument and central motivation of this study in its introduction:

> The future of presentations is here, ready or not. We feel that 2020 will forever be marked as the date when work shifted, education shifted, life shifted; in other words, the year of creative disruption. And even though conferences, meetings, and workshops may return to being offered in person eventually, we strongly believe that a 'web option' will remain prominent. (p. 9)

Based on this belief, Allen and Young (2020) explore central design considerations for preparing online presentations: audience-centered design, clearly designed structure, powerfully designed visuals, setting and tech designs, designed delivery, design for continual growth, and designed participation. These considerations in combination with the PSCR competencies as well as McGloin and Coletti's (2019) toolkit were key to designing the speaking center workshop of this study and providing the basis for the content included. Borrowing from all three of these sources, the resulting workshop created by this study designed a revised measure of online presentation competency areas: engaging with the online audience, creating and using effective visuals, choosing and organizing speech content, delivering the speech fluently and effectively using the video-conferencing platform, capturing the audience's attention through the introduction, and creating a memorable moment for the audience through the conclusion.

Stepping into the Digital Support Space

With distance learning separating students from their teachers and academic supports, high CAs and CMCAs need a deeper-level of support for online public speaking and are likely to benefit from support embedded directly in their courses. Beason-Abmayr and Wilson (2018) found that integrated communication center support in the form of a single workshop, covering slide design and oral delivery skills, yielded significant improvements in their students' speeches overall. This type of integrated approach could be updated to support students with a particular online public speaking assignment. As instructors of public speaking courses adjust the types of public speaking assignments they ask their students to complete, they and their students will likely lean on speaking center services to support their areas of need.

According to Hobgood (2015), speaking centers are adept at changing to meet the needs of students and institutions. As more students find themselves in online classrooms, their time on campus and the limitations of face-to-face activities has catalyzed this need for recalibration. Even in a post-pandemic world, the remnants of pandemic pedagogy will continue to influence learning and student support. The underdeveloped aspect of speaking center literature is about more than simply providing students access to online tutoring and speaking center interventions. Speaking centers must also ensure that they are preparing students for online communication within the workplace. In doing so, they will also discover ways to support high CAs when their public-speaking stage changes from traditional classroom settings to video-conferencing platforms.

To move towards developments in online public speaking supports, this study seeks to better understand the needs and perceptions of students who will use video-

conferencing platforms for public speaking, particularly those with high levels of CA and CMCA. It also develops and assesses an integrated intervention for students working on an online speech through a pre-recorded workshop based on best practices for online public speaking. Finally, it gauges whether exposure to video-conferencing competencies and toolkits leads to changes in perceptions of preparedness for online speaking overall. The guiding research questions and hypothesis for this study are as follows:

RQ1: How prepared do students feel to present a speech on an online platform?

RQ2: What competency gaps do students perceive in their preparedness for presenting an effective speech through video conferencing?

RQ3: What effects does an integrated speaking center intervention have on students' perceptions of preparedness for online public speaking, particularly for high CAs and CMCs?

HP1: If computer-mediated communication skills (CMC skills) share a negative relationship with communication apprehension in online environments (CMCA), then high CAs and CMCAs, when provided with an intervention to increase their CMC skills, will experience a significant increase in preparedness for online public speaking after a targeted intervention.

CHAPTER 3

METHODOLOGY

Research Design Overview

Answering the call of McGloin and Coletti (2019), this study evaluates the implementation and outcomes of a speaking center's embedded intervention focused on preparing students for public speaking in digital spaces. It uses best practices for video-based presentations from the public sector to support students in an introductory communication course, collecting pre and post data from the student workshop attendees. It also strives to understand the needs of high CAs and CMCAs in reducing their anxiety for presenting on online platforms.

Participants

At the University of Rhode Island, the online public speaking intervention was offered to all sections of Communication Fundamentals (COM 100) (n=21) to support the informative speech assignment which occurred throughout the semester at different points depending on the instructor's course design. The pre-recorded speaking center workshop was offered to all COM 100 instructors for embedding in their learning management system (Brightspace), and instructors were encouraged to incentivize students for their participation, if possible, to allow for maximum participation. With an enrollment capacity of 25 students for each section, the participant pool was approximately 525, primarily first-year, students. Of these 525 students, the study yielded 88 participants from various sections of the core course.

Survey respondents ranged from 18 to 40 years of age with an average age of 20 years. The class standing of survey participants were as follows: 58 freshmen, 11

sophomores, 9 juniors, 5 seniors, and 6 others. There were 48 female respondents, 35 male respondents, and 6 nonbinary/ "prefer not to say" participants.

Of the total participants, 48 students indicated that their presentations would be pre-recorded asynchronously, 29 would be presented live using a video-conferencing platform, and 12 were unsure or did not respond to the question. Sixty of the participants specified that they would use Zoom to present their speech, whether live or pre-recorded, and 9 would use their cellphones to record.

Procedure

A pre-intervention survey (see Appendix B for full survey) was first used to assess students' overall feelings of preparedness for their virtual speech as well as their preparedness in several areas of online public speaking competencies. Additionally, the pre-survey included questions used to identify participants with classic CA and CMCA. Students were also asked to assess their comfortability using video-conferencing to measure their initial perceived CMC skill (CMC self-efficacy and CMC competency).

Following the pre-survey, they watched a 20-minute recorded workshop addressing the main competencies and considerations for effective online public speaking (see Appendix E for outline of full intervention workshop). Finally, after watching the workshop, participants completed a post-survey. The post-survey (see Appendix C for the full survey) asked similar questions to the pre-survey to look for changes in student perception about their preparedness for presenting an online speech, particularly within the high CA and CMCA participants. This part of the survey also included an open-ended response which asked students to share additional concerns regarding public speaking online. The pre and post surveys were created using Qualtrics and analyzed using SPSS.

Measurements

CMC self-efficacy and CMC competencies and their relationship to CMCA is investigated in the primary research of this study. Because highly developed models for CMCA (like that of Wrench and Punyanunt-Carter) are reliant on the CMC platforms in question, there is no perfect model for understanding CMCA, CMC skill, and behavioral or attitudinal outcomes in terms of video-conferencing. For the purposes of this study and understanding students' relationship with public speaking on video-conferencing platforms specifically, the model created by Wrench and Punyanunt-Carter (2007) is adapted to reflect the CMC platform in question. Because this model was created 14 years ago, and internet/computer usage has become infused in communication practices, particularly for students, computer efficacy and internet efficacy have been collapsed into a single measure for video-conferencing self-efficacy. CMCA is also measured in terms of video-conferencing only; however, competencies are measured by how prepared students feel to succeed in the five key areas of effective online speaking. Finally, rather than measuring for the final outcome of CMC presence like in the study by Wrench and Punyanunt-Carter (2007), this survey investigated perceived preparedness overall for students' upcoming online speech, both before and after the intervention as the outcome variables in question.

Measures for Communication Apprehension

The public speaking specific sub-set items from the PRCA-24 scale were used in the pre-survey to identify classic public speaking CAs. The six classic public speaking CA items can be found in the matrix of items within question 13 of the pre-survey (see

Appendix B). In the final data collection, the Cronbach's alpha value of the CA scale was greater than 0.7 at 0.708, showing it was sufficiently reliable.

Measures for Computer-mediated Communication Apprehension

High computer-mediated apprehensives (CMCAs) were identified using the measure retooled by Wrench and Punyanunt-Carter (2007) and originally created by Richmond et al. (1998) as the five-scale Fear of the Physician survey tool. Statements were changed to ask specifically about video-conferencing platforms. The five CMCA items can be found in the question 14 matrix within the pre-survey (see Appendix B). The Cronbach's alpha value of the CMC CA scale was greater than 0.7 at 0.752, showing it was also sufficiently reliable.

Measures for Video-conferencing Platform Self-efficacy

Individuals' video-conferencing self-efficacy was assessed using the measure created by Wrench and Punyanunt-Carter (2007) and adjusted to reflect video-conferencing as the CMC platform in question. The nine CMC Self-efficacy items can be found in the question 15 matrix within the pre-survey (see Appendix B).

Measures for Virtual Public Speaking Competencies

The competency items for virtual public speaking are adapted from the toolkits, rubrics, and guidelines presented by McGloin and Coletti (2019) and Allen and Young (2020) as well as the PSCR competency items. To gauge their perceived competencies, participants were asked to express, through Likert-scale questions, how prepared they were to succeed in five areas of effective public speaking: engaging with the online audience, creating and using effective visuals, choosing and organizing speech content, delivering the speech fluently and effectively using the video-conferencing platform,

capturing the audience's attention through the introduction, and creating a memorable moment for the audience through the conclusion. These questions can be found in the matrix of items within question 16 of the pre-survey (see Appendix B). The competency items are also the key areas discussed in the recorded workshop intervention.

Because public speaking is the most common human fear, asking a direct question about public speaking anxiety may provide a false indication of legitimate CA in the context of public speaking. For this reason, the survey designed for the purposes of this study do not ask directly about anxiety before and after the intervention, other than to ask students if they feel more anxious to speech live or asynchronously. Because true communication apprehension is a mostly fixed trait, it is unrealistic to expect anxiety levels to change significantly in the span of 30 minutes and as a direct result of a short intervention. The resulting responses from such a question would also capture anticipatory anxiety rather than true public speaking apprehension. McCroskey (1997) points to the issue of self-reporting measures particularly in relation to competency when he writes, "Although subjects can report whether they feel competent in general or in specific settings, they are not likely in a position to know whether they are competent. Most likely such self-reports would be influenced by the respondent's self-esteem (p.197).

The connection between preparedness and anxiety has been explored by Daly and Vangelisti (1995) who found that speech anxiety was significantly associated with a variety of preparation variables including the constraints of time, equipment, and topic. Operating on this principle and in line with the research questions of this study, the survey phrases questions in terms of how "prepared" students feel to achieve success in

the online-public speaking competency areas. Competency questions are formatted as matrix questions with five options from "very unprepared" to "very prepared," for example: "How prepared (from very unprepared to very prepared) do you feel for engaging with the online audience?"

Figure 3 below is adapted from the structural-equation model developed by Wrench and Punyanunt-Carter (2007) to focus specifically on video-conferencing and virtual public speaking competencies. It provides a conceptual framework for the relationships between the variables explored in this study.

Figure 3. Conceptual Framework of This Study
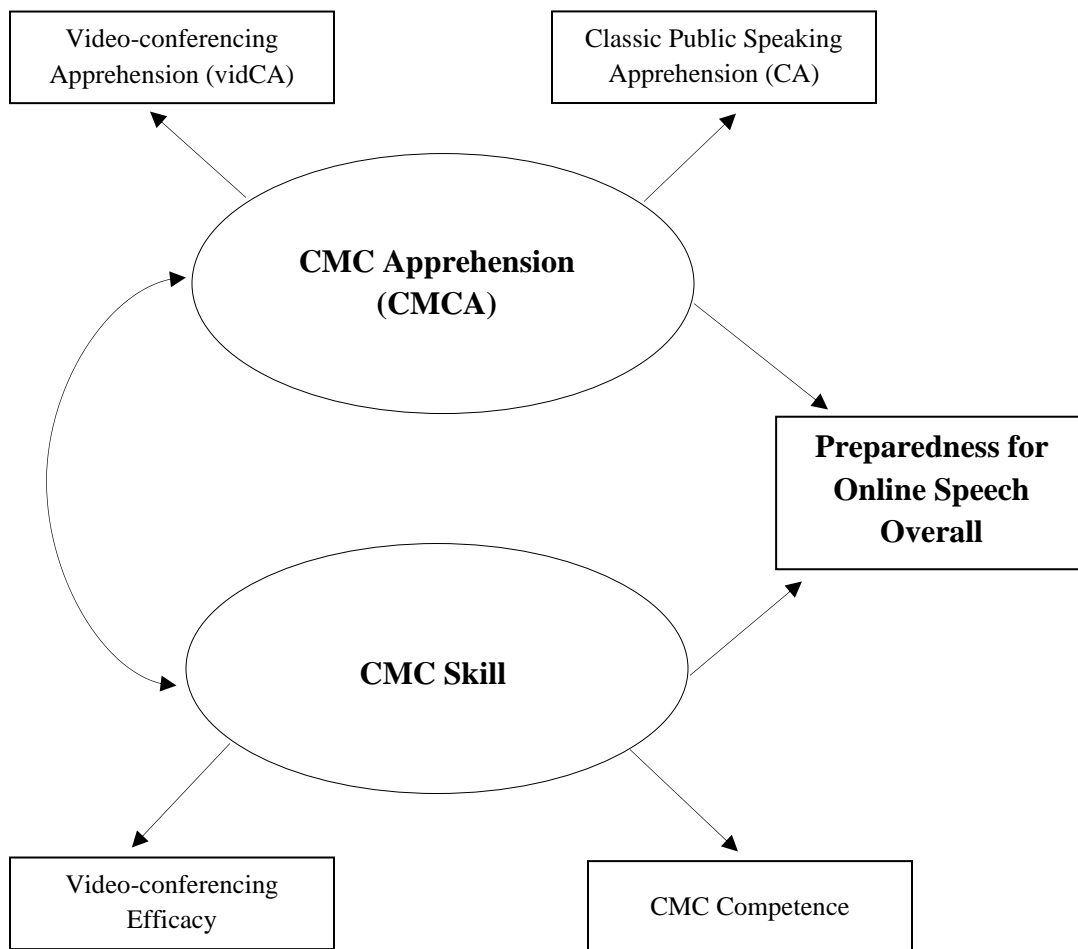
CHAPTER 4

RESULTS

During the spring 2021 semester, the recorded workshop and corresponding surveys were sent to all COM 100 instructors to share with their students. In total 88 responses were received. The results were then analyzed to answer the research questions and understand more about college students' perceptions of online public speaking and the prepared intervention.

Research Question 1: How prepared do students feel to present a speech on an online platform?

As seen in Figure 4, when asked about their perceptions of overall preparedness for online speaking, most participants felt "very prepared" to "prepared" (n=37) or "unsure" of their preparedness (n= 31). Accounting for 16% of the responses, 13 students shared that they felt "very unprepared" to "unprepared" for their online speech.

Figure 4. Pre-intervention Overall Preparedness for Online Presentation
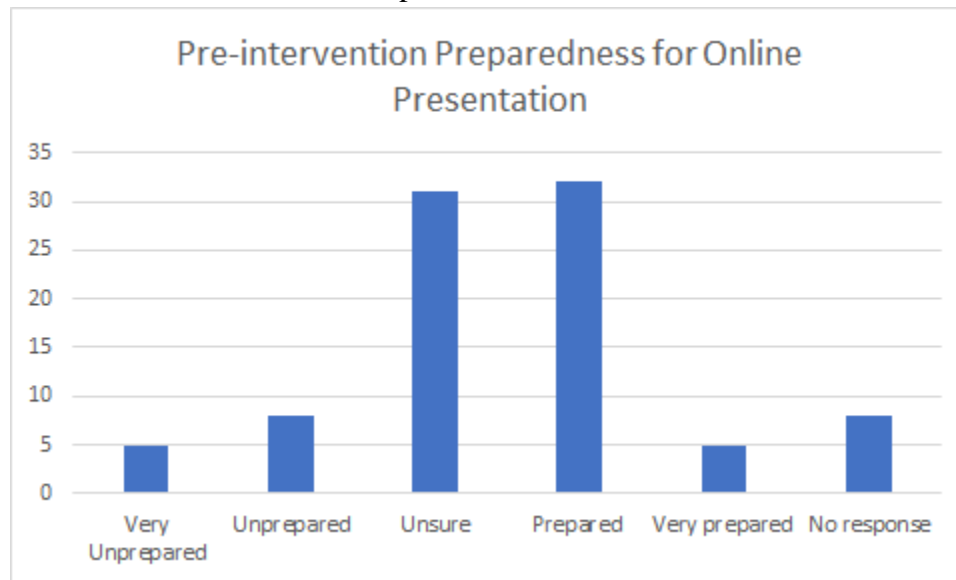
The survey also asked students to compare their anxiety levels when confronted with a live, online speech versus an asynchronous, online speech. Of the 80 students who

answered this question, about 65% (n= 52) chose the response "I am more anxious to present live than I am to record myself presenting;" 29% (n= 23) chose "I am equally anxious about presenting live as I am about recording myself present;" and about 6% (n= 5) chose "I am more anxious to record myself presenting than I am to present live."

High CAs' mean for overall preparedness was 2.84 as compared to 3.41 for low CAs (t78 = 2.38, p = 0.021) and high CMCAs' mean for overall preparedness was 3.09 as compared to low CMCAs' mean for overall preparedness of 3.4 (t78 = 1.47, p=0.144). These scores imply that CAs and CMCAs felt less prepared for online public speaking than their peers.

Research Question 2: What gaps do students perceive in their preparedness for presenting an effective speech through video conferencing?

The pre-workshop survey asked students to indicate how prepared they thought they were in six different categories of online public speaking: engaging with the online audience, creating and using effective visuals, choosing and organizing speech content, delivering the speech fluently and effectively using the video-conferencing platform, capturing the audience's attention through the introduction, and creating a memorable moment for the audience through the conclusion. Out of these categories, participants were asked to choose their primary area of concern. As Table 1 demonstrates, 47.5% (n= 38) expressed that their primary concern was delivery, followed by engaging the online audience which was chosen by 21.6 % (n= 19) of the participants. These findings remained consistent even within the participant pools with the highest levels of communication apprehension, both classic and video-conferencing based.

Table 1. Primary Area of Concern Going into Online Speech

	Frequency	Percent	Valid Percent
Engaging the online audience	19	21.6	23.8
Creating and Using Effective Visuals	7	8	8.8
Choosing and Organizing Speech Content	8	9.1	10
Delivering the Speech Fluently and Effectively Using Video-conferencing*	38	43.2	47.5
Capturing the Audience's Attention through the Introduction	5	5.7	6.3
Creating a Memorable Moment for my Audience through the Conclusion	3	3.4	3.8
Missing Response	8	9.1	
Total	88	100.1	100.2

The final question of the post-survey asked participants what other concerns they may have about public speaking online that were not addressed by the workshop. As noted in the qualitative responses that followed (see Appendix D for all responses), participants seemed to find that the workshop covered most of their concern areas; however, two students reiterated their concern for interacting with an online audience and maintaining the audience's attention, and six participants expressed their difficulty in overcoming public speaking anxiety or employing anxiety reduction techniques such as mindful breathing. This is consistent with the nature of true public speaking CA; as McCroskey's (1997) research suggests, high communication apprehension is a static trait that will not change significantly through intervention. Still, recognizing the challenges faced by high CAs and providing additional supports are necessary to help with coping through the apprehension. The remaining qualitative responses mentioned concerns about appropriate length, technological issues, and presentation options if not using visuals.

General public speaking anxiety and the techniques for overcoming this anxiety were the only patterned responses.

Research Question 3: What effects does an integrated speaking center intervention have on students' perceptions of preparedness for online speaking, particularly for high CAs and CMCs?

The first step to investigate the effects of the intervention was to compare the pre-intervention levels of overall preparedness to the post-intervention levels of overall preparedness. Prior to the workshop, the overall preparedness mean was 3.27 with a standard deviation of 0.932, and after the workshop the mean was 3.84 with a standard deviation of 7.64. (Paired sample $t,72 = 4.443$; $p < .001$). As seen in Figure 5, there was a significant increase in preparedness overall, particularly in moving those who were unsure of their preparedness to feeling prepared. This suggests that the intervention had positive effects for most participants.

Figure 5. Change in Preparedness Overall, Pre and Post Intervention Comparison
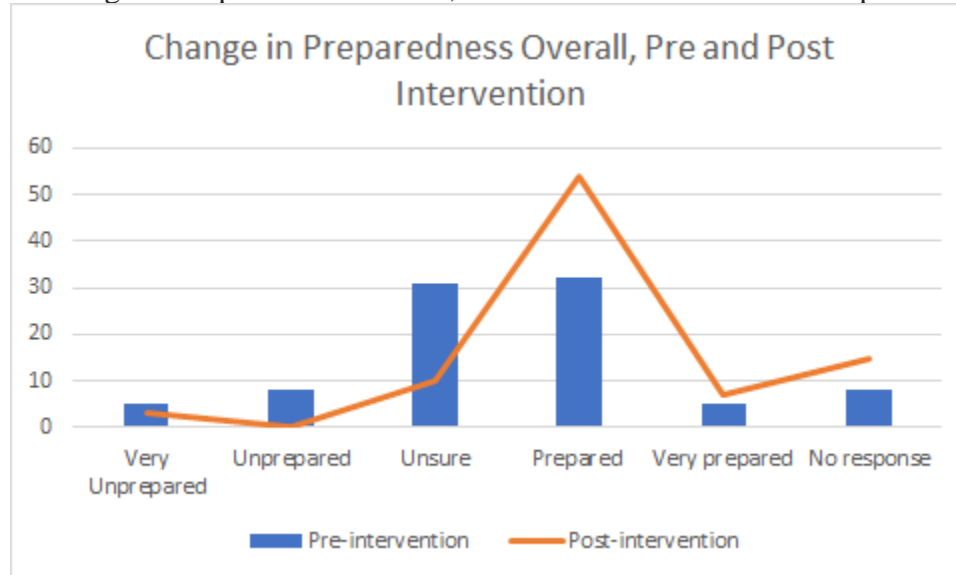
Following the intervention, participants were also asked to signify how prepared they felt in each category: engaging with the online audience, creating and using effective

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visuals, choosing and organizing speech content, delivering the speech fluently and effectively using the video-conferencing platform, capturing the audience's attention through the introduction, and creating a memorable moment for the audience through the conclusion. To calculate the specific category with the greatest increase in preparedness after the intervention, the mean score for each item in CMC competency items from the pre-survey were compared to the mean score of each item in the CMC competency question set in the post-survey. While mean scores for preparedness increased in all competency areas, the calculations yielded four statistically significant categories of change: creating and using effective visuals, organizing and chosing content, delivering the speech fluently and effectively using video-conferencing, and capturing the audience's attention through the introduction. Changes in preparedness for each competency area are also visualized in the line graphs within Figure 6.

Figure 6. Significant Changes in Preparedness by Category, Pre and Post Results
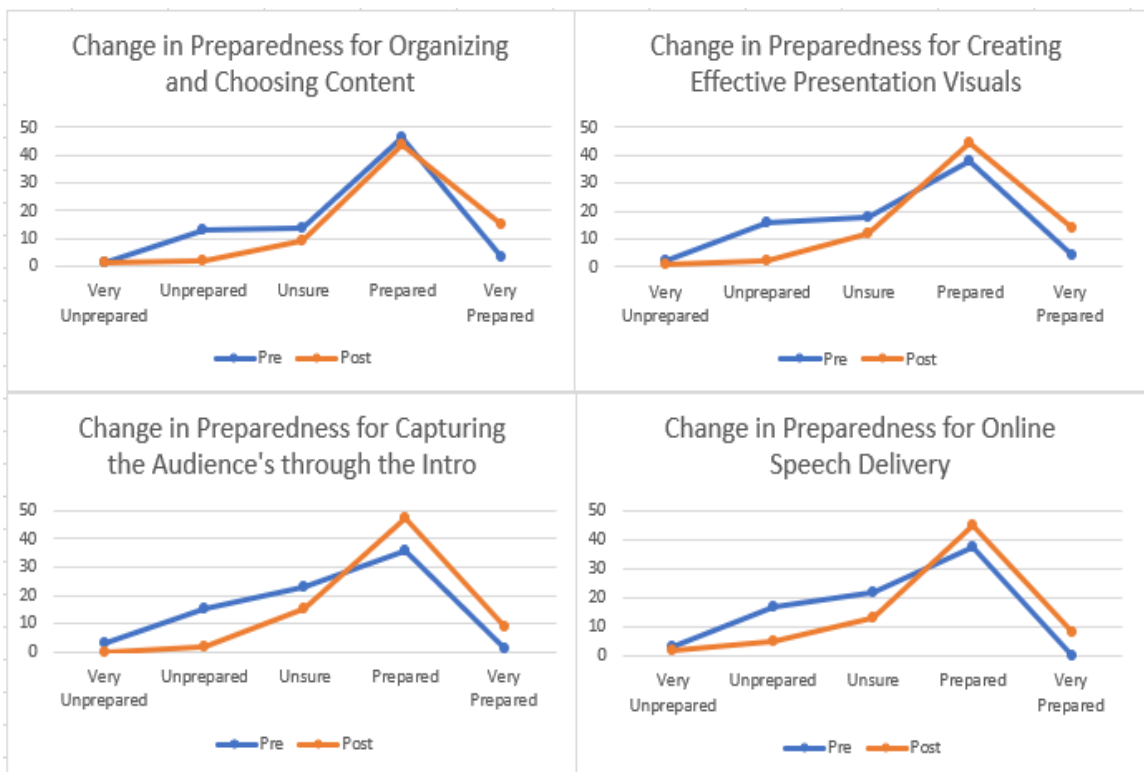
The second part of research question three which aims to understand the effects of the intervention specifically for high CAs and CMCs is answered in detailed in next section which explores the findings in relation to the original hypothesis.

HP2: If CMC skill (consisting of efficacy and competence) shares a negative relationship with communication apprehension in online environments, then high CAs and CMCs, when provided with an intervention to increase their CMC competencies and CMC efficacy, will show a significant increase in preparedness after the intervention.

To investigate the central hypothesis of this study, the survey items related to communication apprehension were analyzed to isolate those with the highest levels of classic communication apprehension (CA) and computer-mediated communication apprehension (CMCA). First, classic public speaking CAs were identified using the six public-speaking-specific, Likert-type items from the PRCA-24 model. As seen in Figure 7, of the 78 responses collected for the pre-survey PRCA-24 question set, the mean cumulative score for participants was 3.58. The top 20% (n= 17) of participants who scored 4.33 or higher were categorized as high in public speaking communication apprehension.

Figure 7. Communication Apprehension Scores (Classic CA)

The next pre-workshop survey question set, adapted from Wrench and Punyanunt-Carter (2007) and the Fear of the Physician scale, sought to further distinguish communication apprehension specifically on computer-mediated platforms (CMCAs). Using Likert-scale responses, students were asked to react to five statements related to their feelings while speaking on video-conferencing platforms. For example, rather than the Fear of the Physician statement, "When communicating with my physician, I feel relaxed," students were asked to indicate the degree to which they agreed with the statement, "I feel relaxed when communicating using video-conferencing for public speaking." As illustrated in Figure 8, the overall score calculations from this data set ranged from 1.6 to 5.0 with a mean of 3.45. Again, the top 20% of participants in this data set were identified as having the highest levels of apprehension, this time with a score of 4.0 or higher; this group of high CMCAs consisted of 33 individuals.

Figure 8. Communication Apprehension Scores (CMCAs)
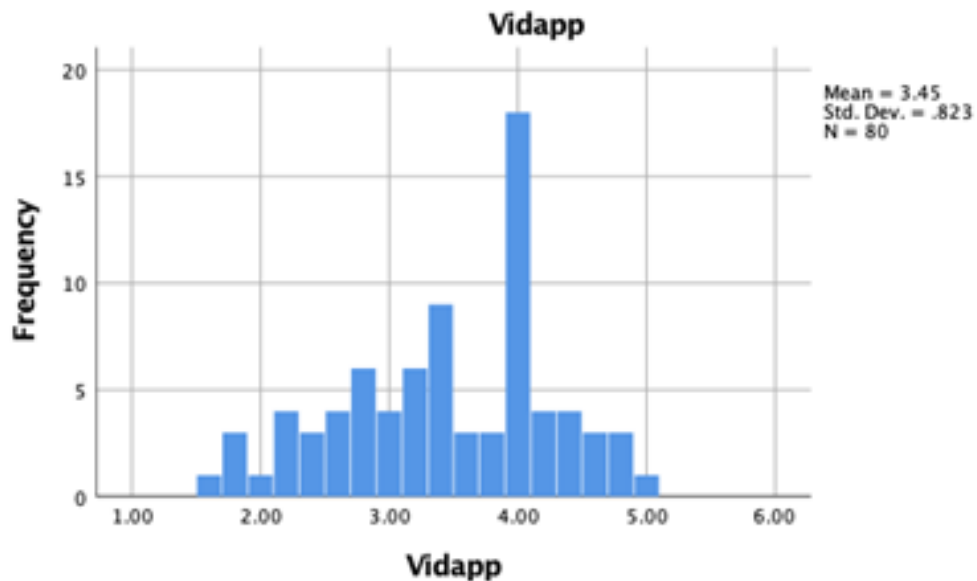
The correlation between the participants who identified as classic high communication apprehensives (CAs) and those who presented as having high

communication apprehension on computer-mediated video platforms (CMCAs) (r=

0.626; p<.01) was significant, suggesting that high levels of classic communication

apprehension likely means high communication apprehension on video-conferencing

platforms. A further breakdown by individual respondent revealed four distinct groups:

40 non-CA, non-CMCA individuals who felt confident with traditional public speaking

and public speaking on a video-conferencing platform (group A); 20 high CA, high

CMCA individuals who were apprehensive about both traditional public speaking and

public speaking on a video-conferencing platform (group B); 7 high CA, non-CMCA

individuals who felt apprehensive about traditional public speaking, but confident

presenting on a video-conferencing platform (group C); and 21 non-CAs, high CMCA

individuals who felt confident with traditional public speaking, but apprehensive about

public speaking on a video-conferencing platform (group D). While these four subsets of

participants are important to note, with the limited sample size of the data collected in

this study, participants who expressed high CA or high CMCA were used as the primary

focus groups for analysis.

Table 2. High CA and High CMCA Crosstabulation

High CA * High CMCA Crosstabulation				
Count				
		High CMCA		
		.00	1.00	Total
High CA	.00	40	21	61
	1.00	7	20	27
Total		47	41	88

Because a primary objective of the intervention was to support students with high

communication apprehension, the next question to investigate through the data was

whether or not the individuals with classic high CAs and high CAs on computer-

mediated platforms expressed that the intervention supported an increase in their preparedness. The mean improvement for class high CAs was 1.124, with a standard deviation of 1.09 as compared to the other (non-high CA) participants whose mean for improvement was 0.40 with a standard deviation of 1.03 ($F_{1,71}$ = 5.96. p = .017). The mean improvement for individuals with high CA on video-conferencing platforms was 0.67 with a standard deviation of 1.09 as compared to 0.49, standard deviation of 1.07 ($F_{1,71}$= .478 p = .492) of their non-CA peers. This suggests that classic high CAs were helped more than their non-CA peers; whereas, those with high CMCA were not helped significantly more than non-CA participants. As explained previously, however, the intervention showed increases in overall preparedness for most participants, so even high CAs on video-conferencing platforms were still aided by the intervention.

CMC Self-efficacy Scores

According to the findings of Wrench and Punyanunt-Carter (2007), those with low computer-mediated communication (CMC) self-efficacy often display more apprehension on the computer-mediated platform in question. Through their research, they found that those who expressed high levels of user capabilities on social media platforms felt more empowered to use them despite their general communication apprehension, leading to greater presence on those platforms. The findings of this study, however, were not fully consistent with the findings of Wrench and Punyanunt-Carter (2007). As seen in Table 3, classic high CAs do have significantly lower self-efficacy scores; however, levels of CMCA and CMC self-efficacy were not related. The only trend found in CMC self-efficacy responses was that high CMCAs did report significantly low mean scores to the statement "when something goes wrong with video-

conferencing, I can always fix it" (high CMCA mean= 2.61, low CMCA mean= 3.02, $F_{1,78}$ = 5.456, p=0.022).

Table 3. CMC Self-Efficacy Scores, High Apprehensives and Non-Apprehensives

High CAs	Non-CAs	ANOVA
Classic CAs: 3.10, s.d. 0.78	3.54, s.d. 0.478	F1, 75= 8.7, p=0.004
CMCAs: 3.32, s.d. 0.711	3.51, s.d. 0.489	F1, 75= 1.98, p=0.164

Additionally, based on the findings of Wrench and Punyanunt-Carter (2007), it seemed that those who scored low in CMC self-efficacy would likely express significantly higher levels of preparedness after the intervention as compared to those who scored high in CMC self-efficacy. In other words, individuals with low CMC self-efficacy would appear to have more room to improve and be more open to additional support in navigating the platform than their peers who already felt confident using the video-conferencing platform. Interestingly, CMC self-efficacy was not significantly correlated (r = 0.090) to the changes in overall preparedness after the workshop. This suggests that participants who identified as high in CMCA and low in CMC self-efficacy before the workshop experienced about equal benefit from the intervention, not significantly more or less. A likely explanation for this finding may be that the high variation in CMC self-efficacy scores for CMCAs participants indicates that some may be apprehensive about items not addressed through the intervention or for reasons such as concern for appearance or lack of reliable technology.

DISCUSSION

This study of virtual public speaking was three-fold. First, it investigated student perceptions of their preparedness for presenting online speeches and the gaps in their competencies. Second, it used best practices from the public sector to create a targeted speaking center intervention with the goal of aiding students in effective online communication. Finally, it collected data about high CAs and high CMCAs and their interaction with video-conferencing platforms to extend the communication apprehension literature into a new and increasingly popular platform. Overall, the findings from this study can help instructors and student-support services like speaking centers better understand the needs of their most anxious students in the online public speaking environment.

The findings of this study provided insight into what students' top student concerns are for presenting speeches online and what support they may need to be better prepared. In terms of preparedness overall for online speeches, 46% of participants (as compared to 38% who were unsure and 16% who felt unprepared) expressed feeling prepared overall for their online speeches. Those with high CA or high CMCA, however, indicated lower levels of preparedness overall and in the competency areas, further suggesting their greater need for support. Preceding the intervention, the most significant competency areas in which participants conveyed their unpreparedness were in "delivering the speech fluently and effectively using the video-conferencing platform" (25.32%) and "creating a memorable moment for the audience through the conclusion" (25.32%). This aligns with the number one concern expressed by participants as they prepared their online speech, "delivering the speech fluently and effectively using the

video-conferencing platform." On the other hand, participants felt most prepared for "choosing and organizing speech content" (63.64%) and "creating and using effective visuals engaging with the online audience," (53.85%).

At the time of this intervention in spring 2021, URI students were three semesters into pandemic learning. The introductory communication course (COM 100) in which participants were enrolled likely included varying levels of in-class instruction related to how to prepare for an online speech. The varying amounts of time instructors spent supporting their students for the switch to online rather than traditional face-to-face public speaking could account for different baselines in preparedness before the intervention. It is also important to note that the COM 100 course itself, regardless of the instructor, also includes a substantial unit on planning, preparing, and delivering a speech; however, the textbook used does not include information on virtual public speaking.

This study hypothesized that students would identify gaps in their preparedness for online public speaking, as the data implied. To aid in closing these gaps, the next phase of the research was to introduce a workshop for students to learn more about the emerging competencies for online oratory. The resulting workshop increased student preparedness across the sample with the most significant change from feeling "unsure" of their preparedness to "prepared." This result suggests that the online public speaking intervention developed for the purposes of this study may serve as an effective template for asynchronous instruction and possible collaboration with speaking centers across higher education. While not all universities have speaking centers, this type of student resource could also be adopted in writing centers as part of their menu of services.

Another central variable explored in this study was communication apprehension in the context of public speaking as well as computer-mediated communication. The measures used in the survey helped to identify both classic public speaking apprehensives (n= 17) as well as computer-mediated communication apprehensives (n=33), particularly on video-conferencing platforms. The results showed a significant correlation between the participants who identified as classic high communication apprehensives (CAs) and those who presented as having high communication apprehension on computer-mediated video platforms (CMCAs) (r= 0.626; p<.01). This finding implies that high levels of classic CA likely suggests high CMCA levels and further informs the necessary intervention for high apprehensives. While it may seem that targeted supports for each distinct population would be needed, the correlation indicates that it might not be necessary to create separate presentations for classic high CAs and CMCAs because of the significant overlap.

A somewhat surprising discovery was that low CMC self-efficacy scores were not significantly correlated to high CMCA scores; in fact, the data showed no relationship at all. While it seems plausible to assume that those who expressed deficiencies in their comfortability using video-conferencing platforms would be significantly more apprehensive communicating on the platform, the results of this study suggested that this is not necessarily true. This could be explained by the change in the self-efficacy measures from Wrench and Punyanunt-Carter (2007). Rather than include computer and internet self-efficacy measures, the re-tooled measure of this study created only one self-efficacy scale for video-conferencing. Additionally, Wrench and Punyanunt-Carter (2007) sought to measure CMC presence as the outcome variable of CMCA and CMC

skill; whereas, this study sought to measure preparedness overall for video-conferencing presentations as an outcome variable of CMCA, CMC skill, and the targeted intervention. As this study is situated in communication course with required use of video-conferencing, CMC presence was not a worthy variable for investigation. Students were required to use a video-conferencing platform to fulfill the assignment; therefore, their presence was not in question. The lack of significant connection between CMCA and CMC self-efficacy signifies that a more accurate measurement of self-efficacy for video-conferencing needs to be developed as part of future research.

Finally, the most significant contribution of this study was the substantiation of the hypothesis. The results revealed that most participants expressed an increase in preparedness overall for their online speech, but high communication apprehensives showed a greater increase in preparedness through the post-survey questions than their non-CA peers. Wrench and Punyanunt-Carter (2007) found that apprehension shares a negative relationship with CMC skill (efficacy and competency); thus, as demonstrated through the findings of this study, an intervention aimed at increasing CMC skill will have significant effects on apprehensives. In the case of this study, apprehensives reported higher levels of preparedness following the intervention than preceding the intervention. This finding is promising as it suggests the intervention supports students who are likely most in need of the support.

McCroskey (2009) emphasizes the importance of supporting high CA's through his later findings that high CAs may struggle professionally with lower incomes, higher turnover in occupations, and less offers of employment than low-scoring CAs (Daly & McCroskey, 1975; Falcione, McCroskey, & Daly, 1977; Richmond, 1977). As students,

high CAs may underperform or even drop out due to lack of participation in class discussions, a lower likelihood to take advantage of supplemental tutoring services, and the potential lack of a cultivated social support system (McCroskey & Anderson, 1976; Scott, Yates, & Wheeless, 1975; McCroskey & Sheahan, 1978). With online learning separating students from their teachers and academic supports, high CAs need a deeper-level of support and clearly benefit when this support is embedded directly in their courses.

Limitations of Study

The first clear limitation of this study is that data were collected using a convenience sample. The key graduate student researcher was also a COM 100 instructor at the time of the study, so students from her two sections of the course were also included in the sample. However, while convenient, COM 100 students were also an appropriate pool given the public speaking outcome of the course. Additionally, the course is required for all undergraduate students, regardless of major.

A second limitation of this study is the formatting of the workshop itself. Given the limitations in resources of the URI Speaking Center during the pandemic, professional speaking center staff members nor peer consultants were not available to support in this instruction live. For this reason, the principle researcher, also a Writing Center Coordinator and Learning Specialist at another institution, created the pre-recorded workshop on behalf of the URI Speaking Center. With additional staff and resources, the workshop could be truly integrated to go beyond embedded resources in the LMS. A live workshop (in the classroom or via Zoom) would provide opportunities for students to ask questions and practice the strategies employed in the workshop before trying them

independently. Possible activities that were considered for this workshop but ultimately not employed due to issues of confidentiality include asking students to create slides based on the 5 by 5 by 5 technique and other visual organization tips. They could also curate their Zoom backdrops and set up lighting structures as shown in the workshop.

As suggested by the confirmation of the hypothesis, this type of high-touch, integrated support is particularly valuable to high CAs by providing low-stakes opportunities for practice in the competency areas. McCall et al. (2017) found that students who experienced high communication apprehension reported that the collaborative and dynamic nature of integrated speaking center support helped guide them on what they needed most and where to start, helping ease their doubts before speech day. In McCall et al.'s (2017) study, high CAs also indicated that they were more likely to seek out these support services independently after becoming familiarized with them in the classroom. Because of the limited resources of the URI speaking center at the time of this intervention, it was not possible to offer one-on-one speaking center services following the intervention for more individualized support. However, this would be the ultimate goal and in future studies could be measured as a final question in the survey to gauge how likely participants would be to take advantage of this one-on-one support following their initial exposure through the in-class workshop.

Another noteworthy consideration of this research is the limitations created by relying on self-reporting data. Similar to the problem Brown et al. (2004) disclosed with their measure of CMC familiarity, relying on self-reported data may be problematic as previous usage, understanding of the platform, and actual competencies either require accessing actual records of usage (which violates privacy) or creating baseline tests to

accurately measure the competencies and skills of users of CMC platforms. Such a

baseline assessment would significantly increase participants' labor in the study but could

also be somewhat subjective as Zoom is used differently depending on the context in

question and particular professors' expectations.

In a more comprehensive and longitudinal study, data could be collected from the

instructors or observed by the researchers by viewing initial online speeches presented by

students. Then, following a similar structure to this study, the self-assessment data would

be collected from students before and following an intervention. Instructors and

researchers could then analyze the second online speeches to look for improvements in

competencies while also collecting additional self-assessment data from students in terms

of their perceived improvements and feelings of anxiety experienced while speaking.

These different data touchpoints would provide a mix of self-reported data and actual

competencies as normed by instructors and researchers. Given the opportunity to examine

the actual resulting speeches would provide the most accurate glimpse into true

competency improvement as well as measures of experienced CMCA and CA before and

after the presented speeches.

Future Research Opportunities

The data collected and analyzed in this study provides insight into how speaking

centers can support the newest form of oratory as well as the benefits such support

provides for high communication apprehensives. What is still unknown is what kinds of

similar work speaking centers across the country may be implementing. While this study

investigates online public speaking best practices in the existing literature, speaking

centers are likely creating their own toolkits as a response to the pandemic. Now, as the

effects of the pandemic are lessening and speaking center professional staff are able to reflect on how they have adapted in this time of crisis, a survey disseminated through the NACC could capture an updated status of the services offered by speaking centers, particularly in supporting online public speaking. Additionally, as workplaces in the public sector decided on future office communications and what place Zoom will have in their post-pandemic operations, a similar study could be implemented in non-educational settings for those workplaces that intend to retain virtual presentations. Now, instead of paying travel costs to attend conferences or visit sister offices in other parts of the county, colleagues and communities of practice can connect in virtual spaces. Finally, both a limitation and strength of the study is the urgency with which such a targeted intervention was created to meet a need caused by the pandemic. It is possible that given the widespread cognitive and emotional overload caused by the pandemic, apprehension levels were already higher than they would have been in non-pandemic times. Considering that the apprehension levels reported by participants in this study could be a result of the difficult past year, replication of this study in a less turbulent time may provide a more clear understanding of CMCA on video-conferencing platforms.

CHAPTER 5

CONCLUSION

Since the fall of 2020 when this research was proposed and the intervention was developed, much has changed. As of June 2021, the CDC reports that in the United States, positive COVID-19 cases are at their lowest since widespread testing began, and more than 40% of the population is now vaccinated against the virus. With the national mask mandate lifted for those who are vaccinated, the future looks healthier with a return to more familiar, non-socially-distanced communication options. Still, the lessons learned from the pandemic-sparked shifts in communication, particularly within higher education, are valuable to informing future services to increase accessibility and flexibility of use.

Recognizing that the chaos of the pandemic forced just-in-time innovations and changes in services, it is important to note that work similar to that discussed in this study is most likely already occurring in speaking centers across the country. In the height of the pandemic, the energies and resources of speaking center staff focused on their students to provide necessary supports for them in the time of need, leaving little time for publication in the speaking center field. Now with a moment to breathe and reflect on the successes and challenges of pandemic-forced adaptations, this study strives to kickstart the discussion within speaking center scholarship of what was learned and what will be carried forward into future speaking center services.

Another core consideration of this work, though not discussed directly, is student wellbeing and mental health. Holistic approaches to academic student support prioritize mental health concerns as they relate to students' overall success. In pandemic times, as

anxiety seeped into classrooms in new ways, cognitive and emotional overload and

burnout factored into the student experience possibly more than ever. Support services

played an important role in triaging student need academically, remotely, and mentally.

As McCroskey (1997) has made clear through his decades of research into

communication apprehension, it is vital to support the distinct needs of this population of

students; coping mechanisms and increased support provide high CAs and CMCAs with

necessary tools that can be carried into their professional lives. With that in mind, it is the

responsibility of speaking centers to place attention on video-conferencing platforms as

another context for communication apprehension, so they may provide strategies and

support to those struggling to succeed in emerging computer-mediated spaces.

APPENDICES

APPENDIX A (Survey Introduction and Alternate Assignment)
Online Public Speaking Workshop

Welcome to the Speaking Center's Online Public Speaking Workshop and Research

You are being asked to participate in a research study about support for online public speaking. Your individual responses will only be seen by the researchers, and the survey results are confidential. We also do not have the ability to identify who filled out which survey.

This study evaluates the outcomes of an embedded intervention focused on preparing students for public speaking in digital spaces. It uses best practices for video-based presentations from the public sector to support students with their presentations on video-conferencing platforms such as Zoom and Webex, collecting pre and post data from the student workshop attendees. It also strives to understand the needs of presenters with high communication apprehension in reducing their anxiety for presenting in online platforms. This survey, including the workshop portion, will take approximately 40 mins to complete.

There are no known risks and your instructor may offer extra credit for your participation. Should you choose not to participate in the workshop and survey, an alternate assignment is embedded in the survey for you to complete. Your participation or lack of participation will have no effect on your grades, other than the extra credit you may receive.

Your responses will be fully confidential. The responses may be used in research papers presented at conferences or publication in scholarly journals. Responses will be analyzed and presented in aggregate. Individual responses will not be published and names will not be collected.

The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study or the University of Rhode Island (URI). Your decision will not result in any loss of benefits to which you are otherwise entitled. You have the right not to answer any single question, as well as to withdraw completely from the survey at any point during the process; additionally, you have the right to request that the researchers not use any of your responses.

You also have the right to ask questions about this research study and to have those questions answered by me before, during, or after the research. If you have

questions about the study, at any time feel free to contact Lindsay LaChapelle from the Department of Communication Studies at llachapelle@uri.edu.

Additionally, you may contact the URI Institutional Review Board (IRB) if you have any questions regarding your rights as a research participant. Also contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Rhode Island IRB may be reached by phone at (401) 874-4328 or by email at researchintegrity@etal.uri.edu. You may also contact the URI Vice President for Research and Economic Development by phone at (401) 874-4576.

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1. Please indicate whether you choose to complete the survey or to do the alternative assignment of reading a scholarly article and answer questions about the content. By choosing to participate in the survey, you give your consent to partake in the research study.

○ I give my consent to participate in the survey. (1)

○ I prefer to complete the alternate assignment. (2)

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2. Do you confirm that you are 18 years of age or older?

○ Yes (1)

○ No (2)

Alternate Assignment:
You have chosen to participate in the alternate assignment. Please read the article "Changing the Channel--From Face to Face to Digital Space: *Framing* the Foundations of Video Based Presentation & Meeting Channels by McGloin and Coletti (2019) (copy and paste the linked below in a new browser), and answer the question that follows. Once you are directed to the webpage, you can either download the full article or read it through your browser by selecting the "Read Full Text" option. You will need to return to this survey after reading the article. Do not close the window.

Link to article: https://bit.ly/2P7cRnp

What are the main strategies discussed by McGloin and Coletti (2019) for presenting more effective speeches on online platforms?

_____

APPENDIX B (Pre-intervention Survey)

Q1 Age

Q2 Gender

    ◯ Male (1)

    ◯ Female (2)

    ◯ Transgender (3)

    ◯ Non-binary/nonconforming (4)

    ◯ Prefer Not to Say (5)

Q4 Class Standing

    ◯ Freshman (1)

    ◯ Sophomore (2)

    ◯ Junior (3)

    ◯ Senior (4)

    ◯ Other (5) _____

Q5 What is your major (or intended major)?

_____

End of Block: Block 6

Start of Block: Speech Information

Q6 What is the length requirement of your speech (in minutes, example: 5-7)?

Q7 Has your professor given you choice about how you will present your speech (ex. live face-to-face, live via web conferencing platform, or pre-recorded/asynchronous)

    ◯ Yes (1)

    ◯ I am not sure (2)

    ◯ No (3)

Q8 What will the format of your speech be?

○ Face-to-face (1)

○ Asynchronous (recorded on Connect or using computer) (2)

○ Live via video conferencing with audience (3)

○ Other (4) _____

Q9 What video conferencing platform will you use?

○ Webex (1)

○ Zoom (2)

○ Google Hangouts/Meets (3)

○ N/A (face-to-face) (5)

○ Other (4) _____

Q10 If asynchronous, how will you record your speech?

○ Using Zoom (1)

○ Using Webex (2)

○ Using Google Hangours/meets (3)

○ Using Connect (4)

○ Using a cellphone (5)

○ Other (6) _____

End of Block: Speech Information

Start of Block: Public Speaking and Video Conferencing Experience

Q11 How prepared do you feel overall for giving this speech online?

○ Very unprepared (1)

○ Unprepared (2)

○ Unsure (3)

○ Prepared (4)

○ Very prepared (5)

Q12 In general, which statement best represents your anxiety in relation to live vs. asynchronous (pre-recorded) public speaking.

○ I am more anxious to present live than I am to record myself presenting. (1)

○ I am equally anxious about presenting live as I am about recording myself present. (2)

○ I am more anxious to record myself presenting than I am to present live. (3)

Q13 The following statements concern your feelings about public speaking in general. Please indicate the degree to which each statement applies to you by marking whether you strongly agree, agree, are undecided, disagree or strongly disagree.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
I have no fear of public speaking. (1)	○	○	○	○	○
Certain parts of my body feel very tense and rigid while giving a speech. (2)	○	○	○	○	○
I feel relaxed while giving a speech. (3)	○	○	○	○	○
My thoughts become confused and jumbled when I am giving a speech. (4)	○	○	○	○	○
I face the prospect of giving a speech with confidence. (5)	○	○	○	○	○
While giving a speech, I feel so nervous that I forget information that I know well. (6)	○	○	○	○	○

Q14 The following statements concern your feelings about public speaking using a video-conferencing platform (Zoom, Webex, Google Hangouts/Meet). Please indicate the degree to which each statement applies to you by marking whether you strongly agree, agree, are undecided, disagree or strongly disagree.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
When communicating using video-conferencing for public speaking, I feel tense. (1)	○	○	○	○	○
When communicating using video-conferencing for public-speaking, I feel calm. (2)	○	○	○	○	○
When communicating using video-conferencing for public speaking, I feel jittery (3)	○	○	○	○	○
When communicating using video-conferencing for public speaking, I feel nervous. (4)	○	○	○	○	○
When communicating using video-conferencing for public speaking, I feel relaxed. (5)	○	○	○	○	○

Q15 The following statements concern your confidence in using video-conferencing platform. Please indicate the degree to which each statement applies to you by marking whether you strongly agree, agree, are undecided, disagree or strongly disagree.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)

I make mistakes when I use the computer. (1)	○	○	○	○	○
Using video-conferencing on Zoom, Webex, or Google Hangouts is easy. (2)	○	○	○	○	○
Everyone else knows what they are doing on Zoom, Webex, or Google Hangouts, but not me. (3)	○	○	○	○	○
I am good with video-conferencing platforms. (4)	○	○	○	○	○
I understand how video-conferencing works. (5)	○	○	○	○	○
I feel uncomfortable using video conferencing when speaking. (6)	○	○	○	○	○
When something goes wrong with video conferencing, I can always fix it. (7)	○	○	○	○	○
I know less about video-conferencing than most people. (8)	○	○	○	○	○
I know how to use the tools of video-conferencing (sharing screen, chatting,	○	○	○	○	○

annotating the
screen) (9)

Q16 How prepared do you feel for achieving the following for your online speech?

	Very Unprepared (1)	Unprepared (2)	Undecided (3)	Prepared (4)	Very Prepared (5)
Engaging with the online audience (1)	○	○	○	○	○
Creating and using effective visuals (2)	○	○	○	○	○
Choosing and organizing speech content (3)	○	○	○	○	○
Delivering the speech fluently and effectively using video-conferencing (4)	○	○	○	○	○
Capturing the audience's attention through the introduction (5)	○	○	○	○	○
Creating a memorable moment for my audience through the conclusion (6)	○	○	○	○	○

Q17 Which of the following is your number one concern going into presenting this speech online?

○ Engaging with the online audience (1)

○ Creating and using effective visuals (2)

○ Choosing and organizing speech content (3)

○ Delivering the speech fluently and effectively using video-conferencing (4)

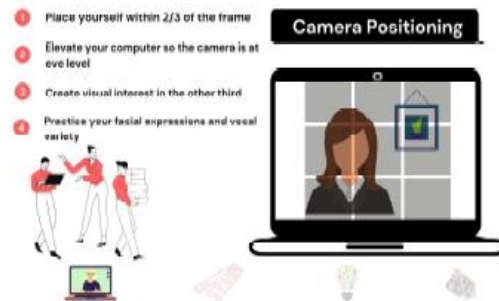○ Capturing the audience's attention through the introduction (5)

○ Creating a memorable moment for my audience through the conclusion (6)

End of Block: Public Speaking and Video Conferencing Experience

Next you will view a 22-minute recorded workshop, helping prepare you for your online speech. Copy the following link into another tab and begin the workshop. Once you have finished, return to this survey to answer the final questions. Hit the arrow to proceed when you are ready for the next set of questions. (Remember to copy the code below to access the recording and be sure not to close this window!)

https://uri-edu.zoom.us/rec/share/Xmft9ggW51M6xgxucQC4Va9FveeqLmp3IauzqUIF6hMKJwlXojIEuyO8emUclm9_.maErhge4uknS_3ys

Or use the tiny link: **https://tinyurl.com/yx8u8snn**

Code: @+5L?Uv5

End of Block: Recorded Workshop

APPENDIX C (Post-Intervention Survey)

Q1 After participating in the workshop, how prepared do you feel overall for giving this speech online?

○ Very unprepared (1)

○ Unprepared (2)

○ Unsure (3)

○ Prepared (4)

○ Very prepared (5)

Q2 Now that you have prepared the speaking center video, how prepared do you feel for achieving the following for your online speech

	Very Unprepared (1)	Unprepared (2)	Undecided (3)	Prepared (4)	Very Prepared (5)
Engaging with the online audience (1)	○	○	○	○	○
Creating and using effective visuals (2)	○	○	○	○	○
Choosing and organizing speech content (3)	○	○	○	○	○
Delivering the speech fluently and effectively using video-conferencing (4)	○	○	○	○	○
Capturing the audience's attention through the introduction (5)	○	○	○	○	○
Creating a memorable moment for my audience through the conclusion (6)	○	○	○	○	○

Q3 Rank the sections of the workshop in accordance with how useful they were in addressing your online public speaking concerns.

_____ Engaging with the online audience (1)

_____ Creating and using effective visuals (2)

_____ Choosing and organizing speech content (3)

_____ Delivering the speech fluently and effectively using video-conferencing (4)

_____ Capturing the audience's attention through the introduction (5)

_____ Creating a memorable moment for my audience through the conclusion (6)

Q4 What other concerns do you have about public speaking online that have not been addressed through this workshop?

APPENDIX D (Responses from Final Qualitative Question from Post Survey)

What other concerns do you have about public speaking online that have not been addressed through this workshop?
I think this online workshop prepared me well. Personally, I only get nervous in the beginning of public speeches. After the first couple seconds my nerves usually settle and I begin to feel more confident. I believe my high school classes prepared me well for public speaking, especially my Italian class. Overall, this online workshop made me more confident and I learned new tips and tricks on how to better my public speaking skills.
I feel like it still going to be hard to get the audience attention online because I personally know I have trouble focusing in my online classes
I have no real overwhelming concerns, I have just never done this before so there will be a learning curve through the first few assignments.
This is not a general statement for everyone but I feel like my speaking is not as well as it should be. I have a speak anxiety and I feel like it will show through my speech.
how to interact with the audience
Knowing what is a good length for a presentation to be finished
What should we do if a technological issue interferes?
How to help control your nerves better
I don't have any other concerns. I still am slightly concerned but maybe its just because I don't know what to expect. The video definitely helped a lot though I am more confident than I was before
How to not need to take a deep breath during the speech
Simply just conquering public speaking nerves.
One concern that I have is forgetting what I am going to talk about once one the stage or presenting on video.
What to do if you don't have a power point

APPENDIX E (Online Public Speaking Intervention/ Recorded Workshop Outline)

Organization & Content

Transparent Organization

1. Consider the format: asynchronous or synchronous?
2. Use visuals cues to break information into pieces and transition
3. Consider various learning styles of audience
4. Avoid cognitive overload
5. Use visual examples or metaphor to illustrate points
6. Be aware of accessibility issues

Organize Visually

- Create an organizational pattern
- Visually reinforce key points
- Use a Progress Bar or internal summaries
- Don't overload your slides with text
- Follow the 5/5/5 rule

Creative Slide Templates
Canva
Slides Go
Prezi
Slides Carnival
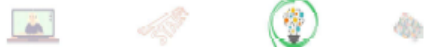
Review the Key Takeaways

1. Create an online presentation checklist!

   This list will help you remember these tips and tricks, so you are ready for your online presentation.
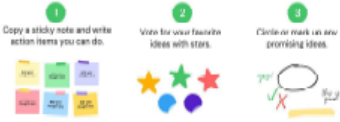
2. Click on the notes below for action list items

Setting Your Stage
- Choose and curate your space
- Decide what points to emphasize by looking directly into the camera
- Raise your laptop to eye level
- Move lights into three-point configuration

Intro & Conclusion
- Craft your interactive attention grabber
- Create an agenda or preview slide
- Decide on call to action
- Curate a takeaway resource

Organization & Content
- Find the perfect slide presentation
- Create a progress bar
- Outline points and streamline content
- Practice flow

Audience Engagement

Engaging the Virtual Audience

Increase Interactivity

- "Read the room" using two screens
- Emphasize specific points with "eye contact"
- Have tasks for your audience to complete
- Create quizzes or follow-up activities
- Create discussion groups

1. Copy a sticky note and write action items you can do.
2. Vote for your favorite ideas with stars.
3. Circle or mark up any promising ideas.

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